Healthy People 2010 Focus Area Progress Review

Focus Area 28-Vision, 20 October 2004

Indian Health Service

The IHS is committed to Healthy People 2010 objectives and goals, and has well established efforts to achieve these goals in pursuit of the IHS mission. Since health care delivery in Indian Country is a heterogeneous entity composed of diverse IHS, Tribal, and Urban organizations (I/T/U), it is difficult to speak programmatically about HP 2010 in a fashion that truly spans the entire organization. For similar reasons there is variable access to data that define performance in these areas, preventing a detailed analysis of HP2010:Vision Activities in Indian Country. However, the following HP 2010 Objectives are addressed by focused programs with significant, but not universal, distribution in the eye care departments across Indian country:

28-2: Increase the proportion of preschool children aged 5 years and under who receive vision screening

- Close cooperation with local Head Start programs to ensure that all preschool children receive appropriate vision screening to identify and refer for intervention uncorrected refractive error, amblyopia, and strabismus.
- Participation in the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program.
- Increased installed user-base of computer automated refraction devices to improve the ability to provide objective refractive information on pre-school children and other pre-literate individuals.
- Increased staffing patterns to better serve communities with misdistribution of eye care providers.

28-5: Reduce visual impairment due to diabetic retinopathy

- Deployment of a nationwide telemedicine program specialized for the remote diagnosis and management of diabetic retinopathy.
- Increased patient and provider awareness through enhanced education.

28-6: Reduce impairment due to glaucoma

- Structured national eye care provider continuing education that is tailored to the diagnosis and management of glaucoma.
- Increased the installed user-base of automated perimetry to enhance the ability to diagnose and appropriately manage glaucoma.
- Publication of resources available for the need-based distribution of non-formulary glaucoma drugs to AI/ANs.
- Multiple local initiatives to broaden the formulary to accommodate the many new anti-glaucoma medications.
- Increased patient and provider awareness through enhanced education.

28-7: Reduce visual impairment due to cataract

- Promulgated cataract surgery as a level-1 priority across Indian Country.
- Increased the ophthalmologist staffing by 20 percent in 2003–2004.

28-10: Increase visual rehabilitation

- Increased distribution of Eye Glass programs partially or wholly supported by the health care facility or tribe.
- Increased use of eye glass distribution as an incentive to adhere to evidence-based standards of care.

The IHS strongly supports the Healthy Vision 2010 objectives and goals, but finds considerable challenges in pursuit of these goals. One major challenge in Indian country is the prioritization and allocation of resources to address the many public health issues among AI/ANs, including those listed in HV2010. This challenge is particularly true with eye care since diabetic retinopathy (DR) is such a devastating disease for our patients and such an overwhelming challenge for the eye care delivery programs in Indian country. Since the prevalence of DR parallels the epidemic of diabetes mellitus (DM), this challenge has taken on an even greater significance. Consequently, this one devastating disease often dominates the attention of an eye care program with the collateral effect of diminishing the capacity and resources for addressing the many other worthy public health issues facing our patients.

In contrast to the other HP2010 Objectives, the IHS has better data on HV 28-5 to allow a better understanding of the problem and to apply appropriate intervention. The pivotal standard of care for this disease is timely diagnosis followed by appropriate treatment. Many years of data documents the failure to provide annual examinations to approximately 50 percent of AI/ANs (Fig1).

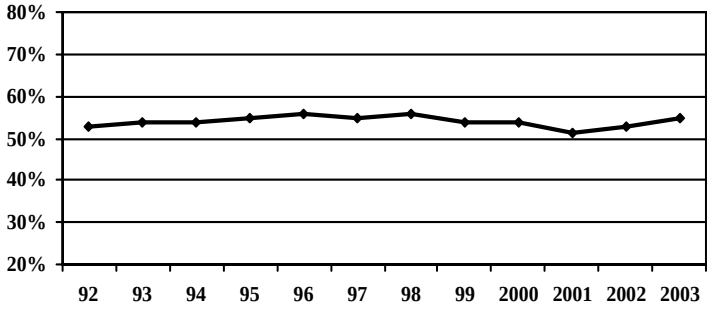

Fig.1 IHS Diabetic Retinal Evaluation Rate: FY92-03

This flat trend represents a real increase in eye examinations due to the marked increase in DM over the same period, but still represents a failure to provide standard of care for approximately half of the AI/AN population. The impact of this is visually devastating for unidentified individuals with high risk DR. Failure to identify and treat high-risk DR caries a very high risk of blindness, but timely diagnosis and treatment can reduce serious vision loss to less than 2 percent per person (Fig.2). Without access to an examination, appropriate treatment goes lacking and the resulting vision loss is predictable.

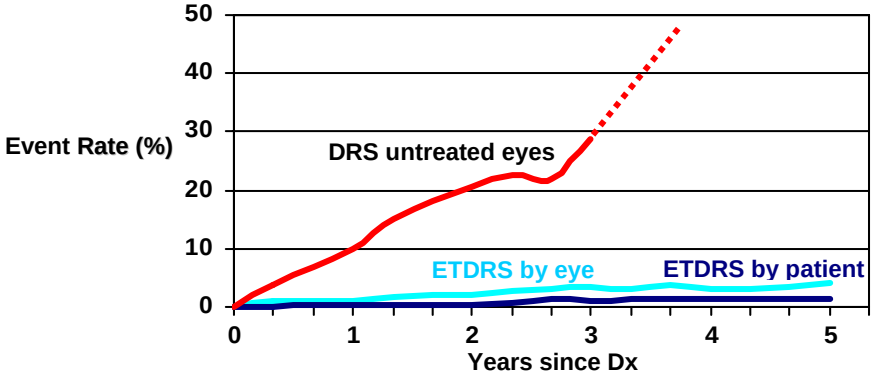

Fig. 2 Visual Acuity less than 5/200 at each visit after Dx of Proliferative Diabetic Retinopathy

In 2000, the IHS deployed a telemedicine system specialized for the remote diagnosis of DR. This technology is validated at the American Telemedicine Association level 3. This validation level documents a diagnostic outcome comparable to that provided by the Early Treatment Diabetic Retinopathy Study (ETDRS) modality, and therefore equal to or better than a live eye examination for the purpose of establishing the level of DR and diabetic macular edema (DME). A 5-year analysis of the impact of this technology at one of the deployed sites showed a 50 percent increase in DR examination rate and laser treatment rate (P<0.00001). (Fig 3)

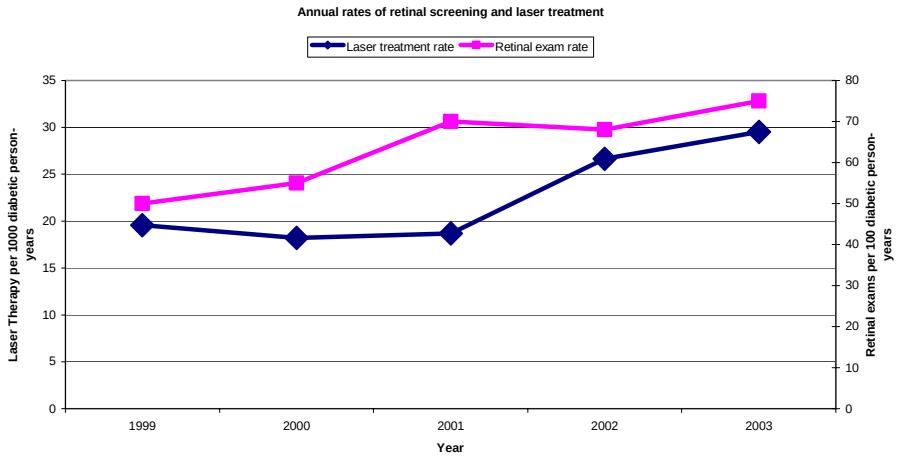

Fig. 3

This technology has been deployed at 23 IHS/Tribal sites across 11 states with increases in the DR examination rate shown at all active sites. This program is funded by special appropriations and will be continued for the duration of the funding of this initiative. We are optimistic that continued use of this technology will allow us to make considerable progress toward the goal in HV 2010 28-5. Efforts will continue with respect to other HV 2010 Objectives and goals, but these may be more problematic. Some of the barriers toward achieving these goals in Indian Country include—

- Incomplete data
  - Disease/target prevalence
  - Intervention outcome analysis
- Disparity between available resources and the public health needs of the AI/AN population
- Difficulty establishing programmatic initiatives across boundaries in the I/T/U setting.